

Date: Thursday, 15/01/2009 11:15:21 AM
 User: Julie Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : STUD
Job Number : 44824	
Estimate Number : 13146	
P.O. Number :	Part Number : D36883
This Issue : 15/01/2009 S.O. No. :	Drawing Number : D3688 REV B
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : MACHINED PARTS	Drawing Revision : B
Previous Run : 38687	Material :
Written By :	Due Date : 30/01/2009 Qty: 10 Um: Each
Checked & Approved By : <u>JLD 09.01.15</u>	
Comment : Rev:A New Issue 08-01-29 JLM Verified By:EC Est Rev:B Material Change 09-01-07 JLM Verified By:EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0	M174PHH900R1000	17-4PH SS ROUND BAR 1.00 COND.900
-----	-----------------	-----------------------------------



Comment: Qty.: 0.8190 f(s)/Unit Total : 8.1900 f(s)
 17-4PH SS ROUND BAR 1.00 ***CONDITION H900****
 BATCH: M110540

JLD 09/01/22 10

2.0	BAND SAW	BAND SAW
-----	----------	----------



Comment: BAND SAW
 Cut blank 9.424" long

JLD 09/01/22 10

3.0	DOOSAN LATHE	DOOSAN LATHE
-----	--------------	--------------



Comment: DOOSAN LATHE
 1-Turn as per Folio FA717 Rev: 1/1 & Dwg D3688 Rev: B

2-Deburr per dwg D3688

JLD 09/01/24

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

JLD 09/01/24

5.0	LATHE CONV.	CONVENTIONAL LATHE
-----	-------------	--------------------



Comment: CONVENTIONAL LATHE
 Face to finished length as per dwg D3688 AND center drill as per Dwg D3688

JLD 09/01/25

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 15/01/2009 11:15:21 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 44824

Part Number: D36883

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

ML 09/01/25

7.0

DOOSAN LATHE

DOOSAN LATHE



Comment: Doosan Lathe

1- Turn as per Folio FA717 Rev: *n/p* & Dwg D3688 Rev: *14*

2-Deburr per dwg D3688

ML 09/01/25

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

ML 09/01/25 (10)

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

ML 09.01.26 (10)

10.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O *3084*
LPI Per ASTM 1417 LEVEL 2
Certificate of conformaty is required

JUD 09.01.28 (10)

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage
Ensure certificate of conformity is attached

ML 09/01/28 (10)

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

(10)

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 15/01/2009 11:15:21 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 44824

Part Number: D36883

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

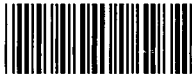
Location: _____

09/01/28 (W)

14.0

QC21

FINAL INSPECTION/W/O RELEASE



09/01/29

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf 09-01-28

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 44824
Description:		Part Number: D3688-3
Inspection Dwg:	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

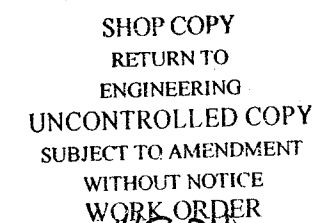
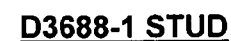
☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.695	+/- .010	.695				
1.25	+0.0 - .030	1.25				
118°	+/- 1/2°	118				
R.03	+/- .030	R.03				
.11 Ref.	+/- .030	.11				
90°	+/- 1/2°	90°				
.825	+/- .010	.825				
.189	+ .005 - .001	.189				
.870	+0.0 - .010	.870				
1.31	+/- .030	1.31				
1.65	+/- .030	1.65				
.659	+0.0 - .015	.659				
9.324	+/- .015	9.324				
R.03	+/- .030	R.030				
.075 x	+/- .010	.075				
45°	+/- 1/2°	45°				
.370	+0.0 - .010	.365				
.189	+ .005 - .001	.190				
R.25	+/- .030	R.25				
R.50	+/- .030	R.50				

Measured by: [Signature]	Audited by: [Signature]	Prototype Approval:	N/A
Date: 09/01/25	Date: 09-01-26	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

[Signature]



RELEASE
08/12/15

- | | | | | |
|------------|--|-------------|--|--------------|
| B | CHANGE TO 17-4PH H-900 (ZN A8-1, A8-2, A8-3, A4-4);
REDUCE LENGTH ON D3688-1 FROM 12.073 TO 11.573 (ZN
C3-1) BASED ON PROTOTYPE INSTALL; Ø0.695 WAS
Ø0.665 (ZN D8-1, D8-2, D8-3); Ø0.508 WAS Ø0.478 (ZN D8-
4); REFORMATTED TO CURRENT DWG STANDARDS | | RF | 08.11.24 |
| A | NEW ISSUE | | RF | 08.05.22 |
| REV. | | DESCRIPTION | BY | DATE |
| DESIGN | | RF | DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D3688

TITLE STUD

COPYRIGHT © 2008 BY DART AEROSPACE LTD
<small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE
WRITTEN PERMISSION OF DART AEROSPACE LTD.</small> | |
| DRAWN | | RF | | |
| CHECKED | | RF | | |
| MFG. APPR. | | RF | | |
| APPROVED | | RF | | |
| DE APPR. | | RF | REV. 1 | SHEET 1 OF 1 |
| DATE | | 08.11.24 | SCALE | NT |

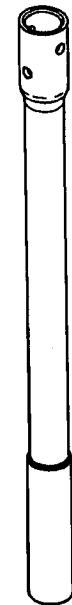


SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 44824

RELEASE
08/12/19 NW

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.97 lb
 - 8) LPI PER ASTM 1417 LEVEL 2

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3688 TITLE STUD COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	REV. B
DRAWN	RF		SHEET 2 OF 4
CHECKED	<i>[Signature]</i>		
MFG. APPR.	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>		SCALE
DE APPR.	<i>[Signature]</i>		NTS
DATE	08.11.24		



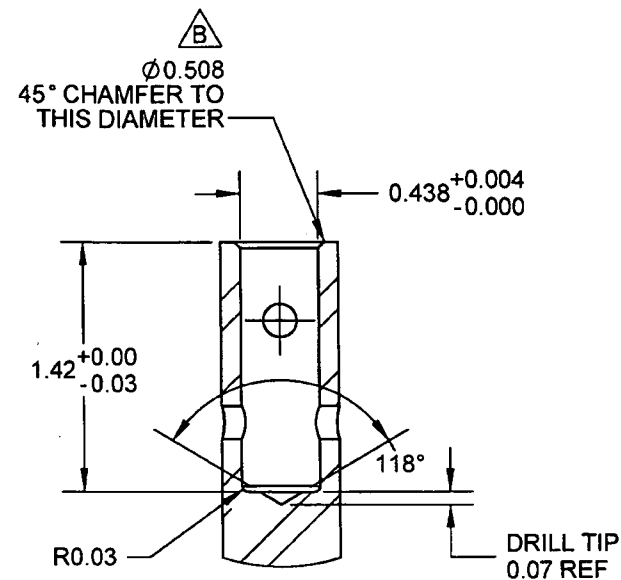
RELEASED
08/12/15

- | | | | |
|------------|--------------------|---|--------------|
| DESIGN | RF | DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

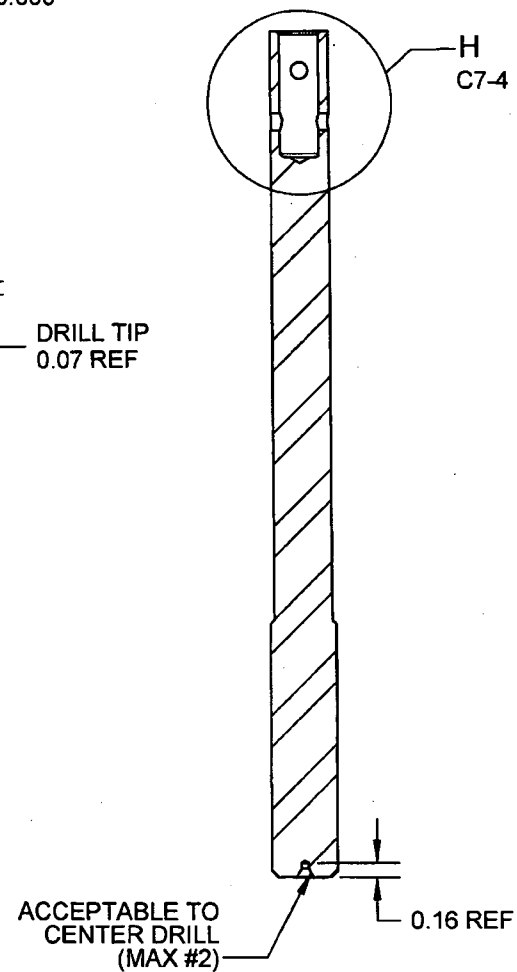
DRAWING NO. D3688

TITLE STUD

COPYRIGHT © 2008 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. | REV. B |
| DRAWN | RF | | SHEET 3 OF 4 |
| CHECKED | <i>[Signature]</i> | | SCALE |
| MFG. APPR. | <i>[Signature]</i> | | NTS |
| APPROVED | <i>[Signature]</i> | | |
| DE APPR. | <i>[Signature]</i> | | |
| DATE | 08.11.24 | | |

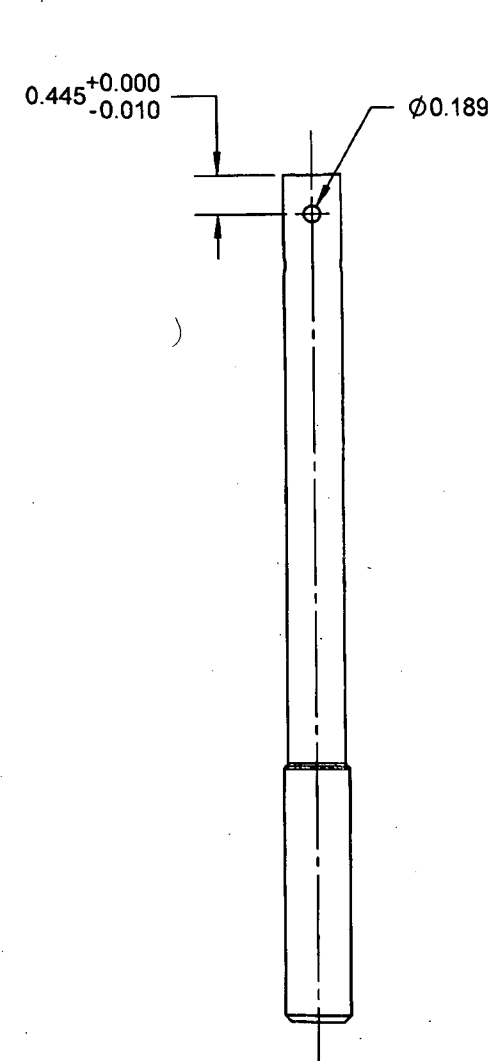
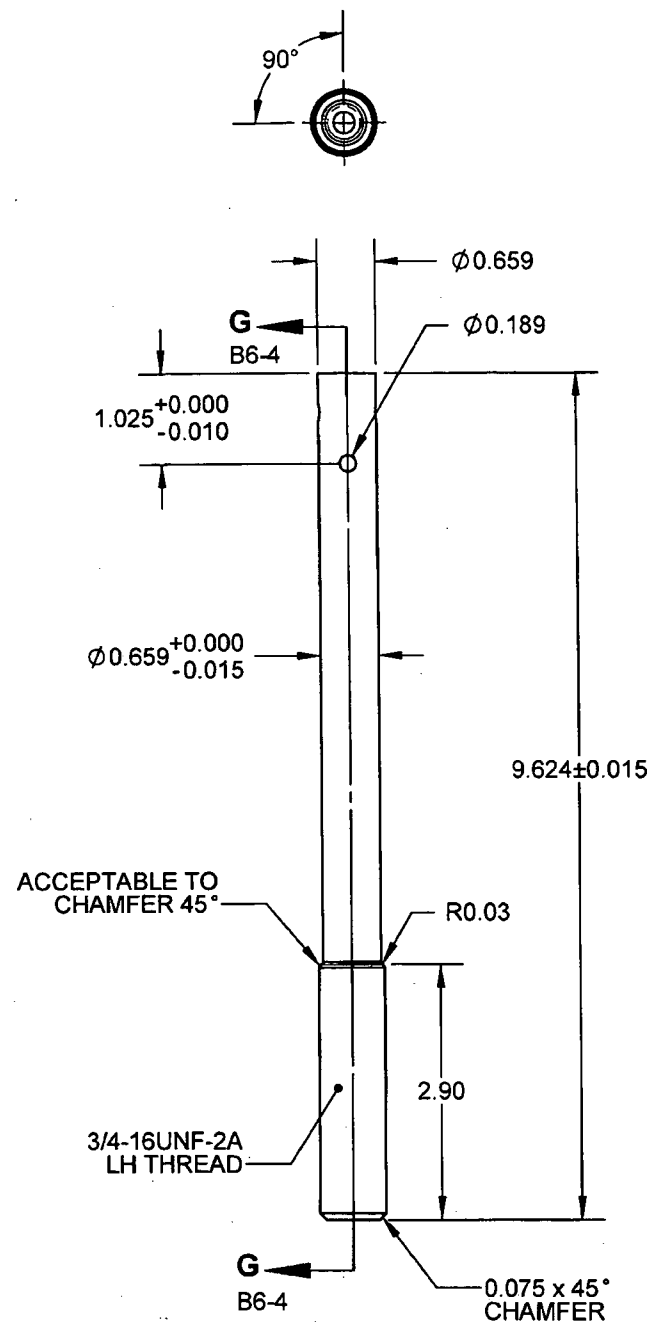


DETAIL H
SCALE 2X
D6-4



SECTION G-G
D4-4

D3688-7 STUD



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 24824

RELEASED
08/12/15/WP

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.97 lb
 - 8) LPI PER ASTM 1417 LEVEL 2

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	9/	DRAWING NO.	REV. B
MFG. APPR.	9/	D3688	SHEET 4 OF 4
APPROVED	9/	TITLE	SCALE
DE APPR.	9/	STUD	NTS
DATE	08.11.24	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
		THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



LIQUID PENETRANT TEST REPORT

P- 14931

PAGE 1 OF 1

CLIENT DART AEROSPACE DATE JAN-28-2009 TIME AM ☒ PM ☐
ATTENTION LINDA ACUREN JOB NO. 188-09-001282
ADDRESS 1270 ABERDEEN ST PO/NO. 8084
HAWKES BURY, ONT. K6A-1K7 WORK LOCATION MAIN SHOP - HAWKESBURY
ACCEPTANCE STD. ASTM 1417 REV./DATE 2007
PROJECT F.P.I. ON MACHINED PARTS AND CROSS TUBES.
ITEM(S) EXAMINED 42 MACHINED PIECES.
3 CROSS TUBES 100% EXTERNAL AND ONE CROSS TUBE REEXAMINE

JOB DESCRIPTION PROCEDURE NO. LT-XXXX REV./DATE TECHNIQUE NO. LT-XXXX-XXX REV./DATE
PART NO. MATERIAL MACHINED ALUM THICKNESS
SCOPE WET FLUORESCENT LIQUID PENETRANT INSPECTION
CARRIED OUT ON 100% EXTERNAL.

TEST DETAILS
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 8171 ☐ OUTPUT > 1000 μ W/CM² ☐ AMBIENT < 2 fc
PENETRANT 2L 67 MINIMUM DWELL TIME 25 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O MINIMUM DRY TIME >10 MIN. OTHER
DEVELOPER SK052 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N CAL DUE DATE FEB-09
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☐ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☐ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- (<input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL)		ACCEPT	REJECT
ITEM	COMMENTS		
1	JB# 44214	✓	
1	45066	✓	
1	44215	✓	
1	44944	✓	
2	45299	✓	
10	44824	✓	
6	44687	✓	
2	45297	✓	
10	44823	✓	
6	44686	✓	
6	44685	✓	

ALL ITEMS FOUND ACCEPTABLE FOR JOB# NOTED

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.
Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES
CLIENT REPRESENTATIVE Matthew M... .. DTR #
TECHNICIAN (SIGNATURE): Mike Johnston SIGNATURE
NAME (PRINT): Mike Johnston REPORT REVIEWED BY:
1st TECHNICIAN 2nd TECHNICIAN
CGSB LEVEL II SNT LEVEL II CGSB LEVEL II SNT LEVEL II
CGSB REG. NO. 6066 CGSB REG. NO. 6066

WHITE - CLIENT COPY

CANARY - OFFICE COPY

PINK - TECHNICIAN COPY

GOLD - OFFICE COPY